

**ABSTRACT**

The present invention relates to a system for  
5 testing the connection paths of a switch fabric by using  
a spontaneously emitted signal as a test signal. The  
system includes at least one first module and at least  
one second module, wherein each one of the second modules  
is associated to one of the first modules through a  
10 connection path in the switch fabric. Each of the first  
modules is capable of obtaining a respective first  
measurement of a characteristic of the spontaneously  
emitted signal supplied to the switch fabric, and each of  
the second modules is capable of obtaining a respective  
15 second measurement of the characteristic of the  
spontaneously emitted signal. The system further includes  
a processing module in communication with each of the  
first and second modules for determining a feature of the  
optical component based on the first and second  
20 measurements.